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COMMENTS ON " POLLEN MORPHOLOGY CLASSIFICATION AND PHYLOGENY OF *PALMAE* " BY G. THANIKAIMONI[1]

by M. A. SOWUNMI

A short rejoinder to the discussion on the evolution of palm pollen characters in the paper mentioned above was considered essential, particularly as the discussion touched on some of the fundamental propositions of SOWUNMI (1967, 1968).

SOWUNMI reported the occurrence of a colpoid streak —a thin area delimited or bounded by a thickened part of the exine— extending from one pore to the other in the pollen grains of *Daemonorops sparsiflorus*. She further on suggested that a diporate condition could result from an elimination of this colpoid streak. THANIKAIMONI referred to this proposition but immediately went on to say that no trace of a ' sulcus ' at the distal part was noticed in *D. verticillaris*, and that ' the so-called disappearing colpus ' is but a fold in the proximal part of the pollen. Two things need be said. Firstly, SOWUNMI did not report the occurrence of a colpoid streak in *D. verticillaris*, but rather in *D. sparsiflorus*. In view of the pollen morphological variations sometimes observed within a genus, it would be dangerous and unjustifiable to assume that these two particular species were identical and that hence a feature of one must necessarily be in the other. Secondly, *Daemonorops sparsiflorus* grains do clearly exhibit an unmistakable colpoid streak (Fig. 1) which could not be due to ' a fold in the pollen ' as implied by THANIKAIMONI.

THANIKAIMONI's interpretation of the orientation of the two colpi in type 7 as being bipolar, i.e. one distal and the other proximal is rather far-fetched. This erroneous impression was probably derived from the diagram, Fig. 1. But in the text, SOWUNMI referred to the two colpi in types 6 and 7 as ' meridional, in a plane parallel to the polar axis, and crossing the equator at right angles '. The two colpi were not at any time referred to as being bipolar.

With regard to the derivation of a dicolpate condition, SOWUNMI suggested two possible routes, one being more probable than the other: either by the contraction of the distal part of an extended colpus or by the

1. Adansonia, sér. 2, 10 (3) : 347-365 (1970).

contraction of the distal and proximal parts of an annular colpus (Fig. 1, 4 → 6 or 4 → 5 → 7; 4 being a grain in which the colpus is almost a complete ring, synonymous with ' extensive sulcate type ' of THANIKAIMONI, 5 an annulocolpate[1] grain, synonymous with ' meridionosulcate type ' of THANIKAIMONI, and 6 and 7 dicolpate grains). Consequently, the more probable route indicated in this diagram is in agreement with THANIKAI-

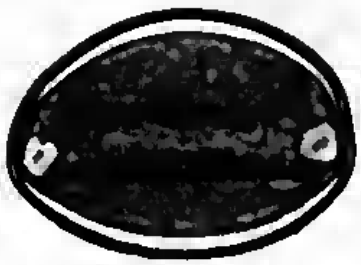

FIG. 1. — **Daemonorops sparsiflorus** × 1 000. Note colpoid streak between the two pores. — Photo M. A. SOWUNMI.

MONI's own proposition. Again, it would have been more illuminating and useful if he had provided photomicrographs of *Metroxylon*, which, according to him, showed ' traces of disappearance of extensive-sulcus at the distal part of the pollen '. While the derivation of a dicolpate condition via the contraction of the distal part of an extended colpus seems the more obvious and likely route, the other route via the contraction of the distal and proximal parts of an annular colpus cannot be completely ruled out. The occurrence of a combination of subannulocolpate, annulocolpate and dicolpate grains in individual specimens of *Pinanga javana* and *P. ternatensis* seems to support the latter contention.

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1. Annulocolpate : with a ring-like meridional aperture which encircles the polar axis (SOWUNMI, 1967).